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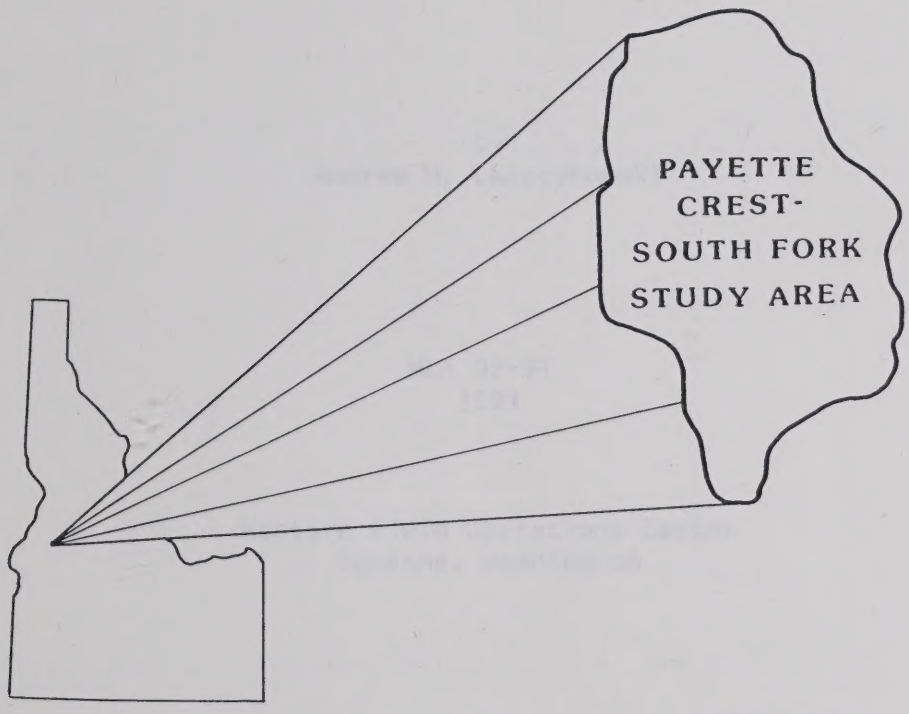

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MINERAL RESOURCES OF THE PAYETTE CREST-SOUTH FORK STUDY AREA, VALLEY COUNTY, IDAHO

by
Andrew M. Leszcykowski

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1991

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The Bureau of Mines (Bureau) conducted mineral investigations of the Payette Crest-South Fork area in west central Idaho near McCall, Idaho, in 1989. There are no known producing mines or mineral production from the area. Forty-seven samples were taken (stream sediment, rock, and placer); no identified mineral resources were delineated.

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PREFACE

The Wilderness Act (Public Law 88-577, September 3, 1964) and related acts require the U.S. Bureau of Mines and U.S. Geological Survey to survey certain areas of Federal lands ". . . to determine the mineral values, if any, that may be present . . ." Results must be made available to the public and be submitted to the President and the Congress. This report presents the results of a Bureau of Mines mineral investigation of the Payette Crest-South Fork study area, Valley County, ID. Lands in the area studied for this report have been recommended by legislative proposals to be classified as Wilderness or as Special Management Areas. Mining-related activity in the study area would be severely restricted under any of these designations.

This open-file report contains data gathered and interpreted by personnel of the U.S. Bureau of Mines, Western Field Operations Center, Branch of Resource Evaluation, East 360 Third Avenue, Spokane, WA 99202. This report has been approved by the Branch of Mineral Land Assessment, Washington, D.C.

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SUMMARY

In 1989, at the request of members of the United States Congress, the U.S. Bureau of Mines conducted an examination of the Payette Crest-South Fork study area in order to ascertain what, if any, identified mineral resources might exist in the area. Bureau of Mines geologists examined and sampled prospects and mineralized outcrops in the study area, and collected 47 mineral samples during the study. The area is in the Payette and Boise National Forests, about 15 miles east of McCall. The study area, of approximately 210,000 acres, encompasses the Payette Crest proposed Wilderness area as well as the proposed South Fork Salmon Special Management Area.

According to Valley County records, 214 mining claims have been located in the area studied. There is no record or evidence of any major mining activity, and there currently is no significant claim interest in the area studied.

The area is underlain by granitic rocks of the Cretaceous-age Idaho batholith, primarily quartz monzonite, and by Precambrian-age roof pendants that are primarily schist.

No identified mineral resources were delineated during the study.

INTRODUCTION

This report describes the U.S. Bureau of Mines (USBM) investigation of mineral resources in the Payette Crest-South Fork study area. The approximately 210,000-acre area studied encompasses the Payette Crest (Needles East RARE II) portion of the proposed Secesh-Payette Crest Wilderness and the proposed South Fork Salmon Special Management Area (U.S. Senate Bill S. 371, 101st Congress). The work was completed at the request of members of the United States Congress and included an examination of all mines, claims, prospects, and mineralized zones in the area studied. This study also included an evaluation for economic resources; none were identified. Results will be utilized to determine the suitability of the area studied for inclusion into the National Wilderness Preservation System or Special Management status. The immediate goal of this and other USBM mineral surveys is to provide data for the President, Congress, U.S. government agencies, and the public for land use decisions. Additionally, the information can be used to ensure the United States has an adequate and dependable supply of minerals at a reasonable cost.

Geographic Setting

The Payette Crest-South Fork study area is located in the Payette and Boise National Forests and lies about 15 air miles east of McCall, ID (fig. 1). The area is mainly drained by the South Fork Salmon River and its tributaries. Lick Creek is the northern boundary of the study; North Fork of Lake Fork Creek parallels the northwestern boundary of the study area. This northwest boundary parallels the southeast boundary of

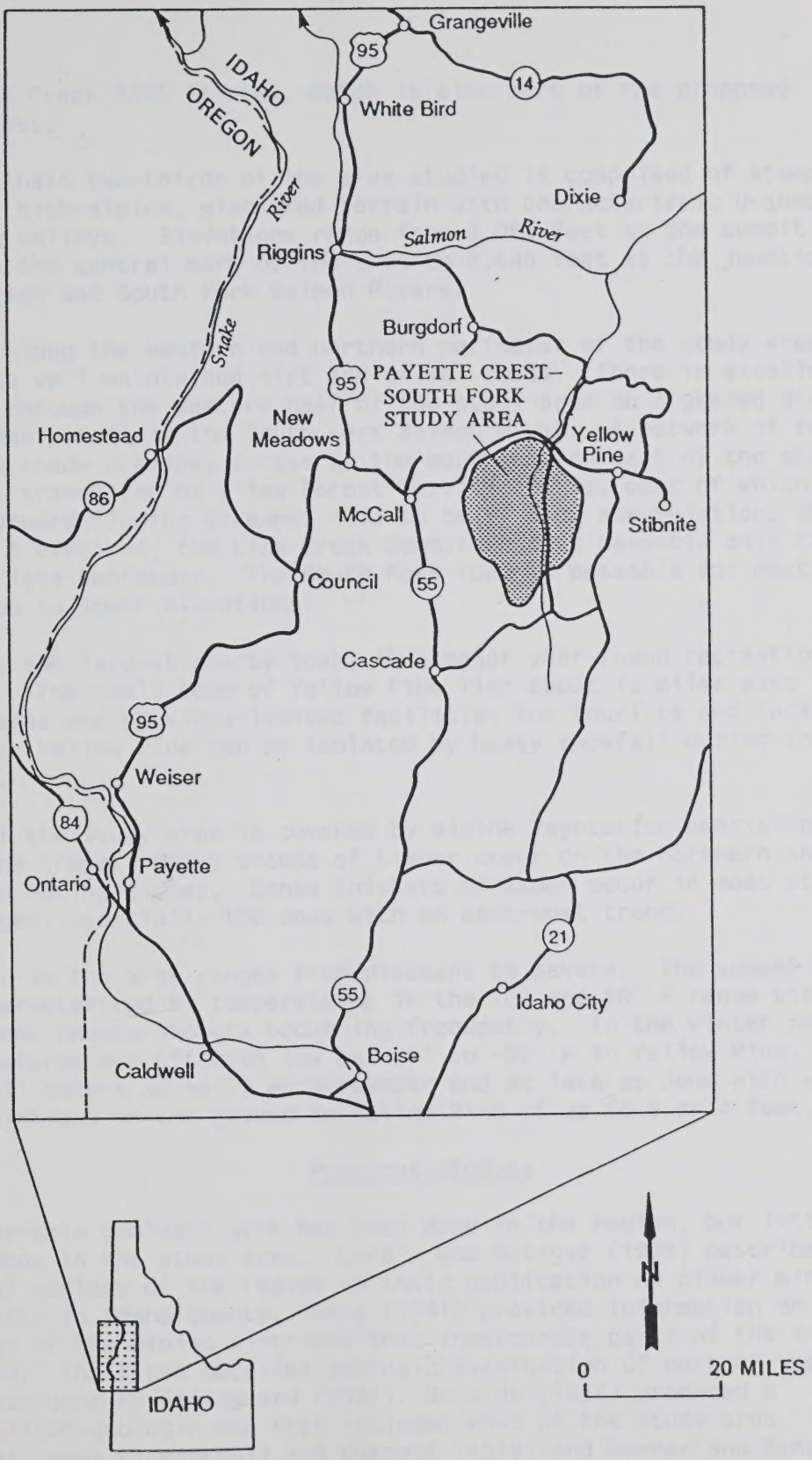

FIGURE 1.-Location of Payette Crest-South Fork study area, Valley Co., ID

the Lick Creek RARE II area, which is also part of the proposed wilderness.

The northern two-thirds of the area studied is comprised of steep, rugged, high-alpine, glaciated terrain with characteristic U-shaped and hanging valleys. Elevations range from 9,064 feet at the summit of Nick Peak in the central part of the area to 3,640 feet at the junction of the Secesh and South Fork Salmon Rivers.

Access along the western and northern perimeter of the study area is good via well maintained dirt and gravel roads. There is excellent access through the eastern half of the study area on a graded gravel road that parallels the South Fork Salmon River. A network of forest logging roads provides access to the southwestern part of the area. The area is transected by a few Forest Service trails, most of which follow the eastward flowing streams. Due to heavy snow accumulations at the higher elevations, the Lick Creek Summit road is passable only from mid-May to late-September. The South Fork road is passable for most of the year due to lower elevations.

McCall, the largest nearby town, is a major year-round recreational center. The small town of Yellow Pine lies about 12 miles east of the study area and provides limited facilities for tourists and local miners. Yellow Pine can be isolated by heavy snowfall during the winter months.

Most of the study area is covered by alpine vegetation consisting of fir and pine trees. Heavy stands of timber occur on the northern and eastern facing slopes. Dense thickets of aspen occur in most stream drainages, especially the ones with an east-west trend.

Weather in the area ranges from pleasant to severe. The summer months are characterized by temperatures in the 70° and 80° F range with afternoon thundershowers occurring frequently. In the winter months the temperatures are often as low as -20° to -30° F in Yellow Pine. Snowfall occurs as early as September and as late as June with winter accumulations on the ground in Yellow Pine of up to 3 or 4 feet.

Previous Studies

Considerable geologic work has been done in the region, but little has been done in the study area. Lorain and Metzger (1938) described the general geology of the region in their publication on placer mining districts in Idaho County. Ross (1941) provided information on the geology of the mining districts that incorporate parts of the area studied. The first detailed geologic examination of part of the study area was done by Kiilsgaard (1947). Schmidt (1964) produced a generalized geologic map that included most of the study area. Two geologic maps by Mitchell and Bennett (1979) and Rember and Bennett (1979) included the geology of the current study area. Horn (1986) evaluated the mineral resources of the contiguous Lick Creek Roadless Study Area. A U.S. Geological Survey Open File Report by Nevins and

Oakman (1988) gives an overview of the geologic and mineral resource information available from the Conterminous United States Mineral Assessment Program (CUSMAP) study for the Challis 1° x 2° quadrangle.

Present Study

Preliminary work included research of all available literature on geology and mineral resources of the area under study. All mining recordations for Valley County were searched to establish the number and type of mining claims in the study area. Payette National Forest minerals specialists at McCall and Krassel District offices were contacted to obtain all available information concerning mining-related activity in the study area.

Field work was conducted from July through August, 1989. All known mines, prospects, and mineral occurrences were examined and sampled where warranted. Three placer samples, eight rock chip samples, and thirty-six stream sediment samples were taken during the study. Placer samples are surficial samples taken from stream beds to check for gold or other heavy metals. The placer samples each consisted of three 14-inch pansful of gravel from the stream channel and bedrock crevices. Chip samples are a regular series of rock chips taken from an outcrop. These chip samples were taken from rock exposures in mine or prospect workings and from outcrops exhibiting unusual characteristics or mineral assemblages. Stream sediment samples are samples of fine-grained material from stream beds. Samples of stream sediments were taken from most stream drainages for evidence of hidden ore deposits in the basins drained by the streams.

Rock samples were crushed, pulverized, and split. The rock and stream sediment samples, as well as concentrates from the placer samples, were analyzed using the Induction Coupled Plasma (ICP) method on partially digested, aqua regia extracts of the samples for a suite of 15 elements (see appendix). This analytical package was designed to detect any concentrations of elements that could be indicative of mineral deposits. Placer samples, partially concentrated in the field, were further concentrated on a laboratory-sized Wilfley table at the Bureau's Spokane office. The heavy mineral concentrates were examined under a binocular microscope to determine the type and amount of heavy minerals that were present. All samples were checked for radioactivity and fluorescence. Sample analytical results are tabulated in the appendix.

Evaluation of the analytical results used standard geostatistical techniques. Anomalous analyses were defined as those with levels two or more standard deviations greater than the mean. Analyses less than the detection limit were arbitrarily set at one-half the detection limit for statistical calculations. Patterns of elemental distribution were plotted using the Environmental Protection Agency Geostatistical Environmental Assessment Software (GEOEAS) public domain computer software.

ACKNOWLEDGEMENTS

Appreciation is extended to Bureau field technicians Curt Hughes and Mike Petrie for assisting in the completion of the project field work.

GEOLOGIC SETTING

Undifferentiated Idaho batholith and Precambrian schist (Rember and Bennett, 1979) dominate the study area. Throughout the area, Cretaceous batholith rock is predominantly quartz-monzonite, but differentiation within the batholith has produced a variety of different rock types; alaskite, quartz diorite, and granodiorite occur in the area as localized, widely scattered outcrops. Xenoliths of metamorphic rocks, primarily schist, in the batholithic rocks throughout the study area vary in size and are remnants of the sedimentary Belt Series of rocks (Schmidt, 1964). The sediments were metamorphosed as roof pendants overlying the batholith. The areal extent of most of these inclusions is too small to be shown on a geologic map of the scale of figure 2. In the west central part of the study area, near Boulder Lake, are two large lenticular xenoliths comprised of schist. Most of the smaller outcrops of metamorphic rocks can be recognized by the reddish patches formed by iron oxide staining. Some of the schist in the area was observed to contain books of muscovite mica 2 to 4 inches thick and 6 to 10 inches long. There are small northern extensions of these roof pendants.

In the vicinity of North Fork of Lake Fork Creek, there is a linear outcrop of schistose, limy, argillaceous rock that is a remnant of the roof pendants. Outcrops in this area have been claimed for building stone because of the unusual (but not unique) rock texture and the blocky fracture pattern.

MINING HISTORY

The region has a rich mining history, but the study area itself has little history of note. The area encompassed by this study lies on the peripheries of three mining districts, the Warm Lake district to the southeast, Warren district to the north, and Yellow Pine district to the east and northeast. No known organized mining district covers the study area. Mining activity in this part of central Idaho began in the mid-1860's with the discovery of gold, and numerous mining camps were established in the latter part of the 1800's at such places as Warren, Florence, and Edwardsburg. Placer mining was undertaken along the South Fork Salmon River downstream from the mouth of the Secesh River. Old placer workings are still evident along the banks of the South Fork Salmon River in this area. Another nearby placer mining area is on the headwaters of the Secesh River in Secesh Meadows, about ten miles north of the study area.

The first claims in the study area were located in 1878. Since then 214 claims have been filed, according to Valley County records. These consisted of 130 lode and 84 placer claims. The majority of the lode claims were located in the vicinity of Boulder Lake and along the North

Fork of Lake Fork Creek. All of the placer claims are along the South Fork Salmon River and the Secesh River. Currently there are no claims located in, or extending into, the proposed Wilderness or Special Management Area.

APPRAISAL OF SITES EXAMINED

Evaluation of mineral resources in the study area was completed in two phases. One phase consisted of evaluating specific sites, including lode as well as placer claims. Techniques utilized consisted of chip sampling of outcrops and possible mineral bearing structures. The other phase consisted of evaluating large areas utilizing reconnaissance sampling techniques. The evaluation method chosen for the latter phase was stream sediment sampling. Sediment samples were taken from most major stream drainages in the study area to help identify possible mineral occurrences in the study area.

Thanksgiving Prospect

One of the site specific areas, the Thanksgiving prospect, lies south of Boulder Lake on the eastern slope of Twin Peaks (fig. 2). The prospect is in the immediate proximity of Precambrian roof pendants shown on geologic maps of the area (Bennett, 1979). There are two old adits at the site as well as several prospect pits. The size of the dump at the portal of one adit, now caved, indicates it was approximately 100 feet long; the other adit is 23 feet long. The northern-most prospect pit is about 12 feet in diameter and 5 feet deep. All workings are in xenoliths of metasediments enclosed in quartz monzonite. The metasediments are primarily schist with minor amounts of graphite in localized shear zones. Five samples were taken from structures exposed in the various workings. One sample (no. 36, fig. 2), taken from the shear zone exposed above the portal of the caved adit contained 315 ppb (parts per billion) gold or 0.01 troy ounces per ton, not an economic amount. None of the other four samples (nos. 35, 37-39, fig. 2) taken from the prospects, contained significant amounts of any elements.

Stevens Mine

Another site specific area is the Stevens mine (nos. 43 and 44, fig. 2) located along the west central edge of the study area on the North Fork of Lake Fork Creek. This is also known as the Slab Sugar Granite claims. Workings on these claims consist of shallow excavations as well as evidence of quarrying. The main excavation or quarry area is about 30 feet long and 15 feet high, with about 1,000 cubic feet of rock excavated. The workings are in metasediments that occur as linear lenses in granitic rocks. Rock types range from argillites to schists and have a blocky or slab-like fracture pattern. The lenses are generally less than 5 to 10 feet thick but in the vicinity of the main excavation, there is a lense about 20 feet thick. The lenses are exposed along the east slope of the canyon for about two miles. No sample taken from them contained economically significant amounts of any element. Residents of the area reported that rock from the main

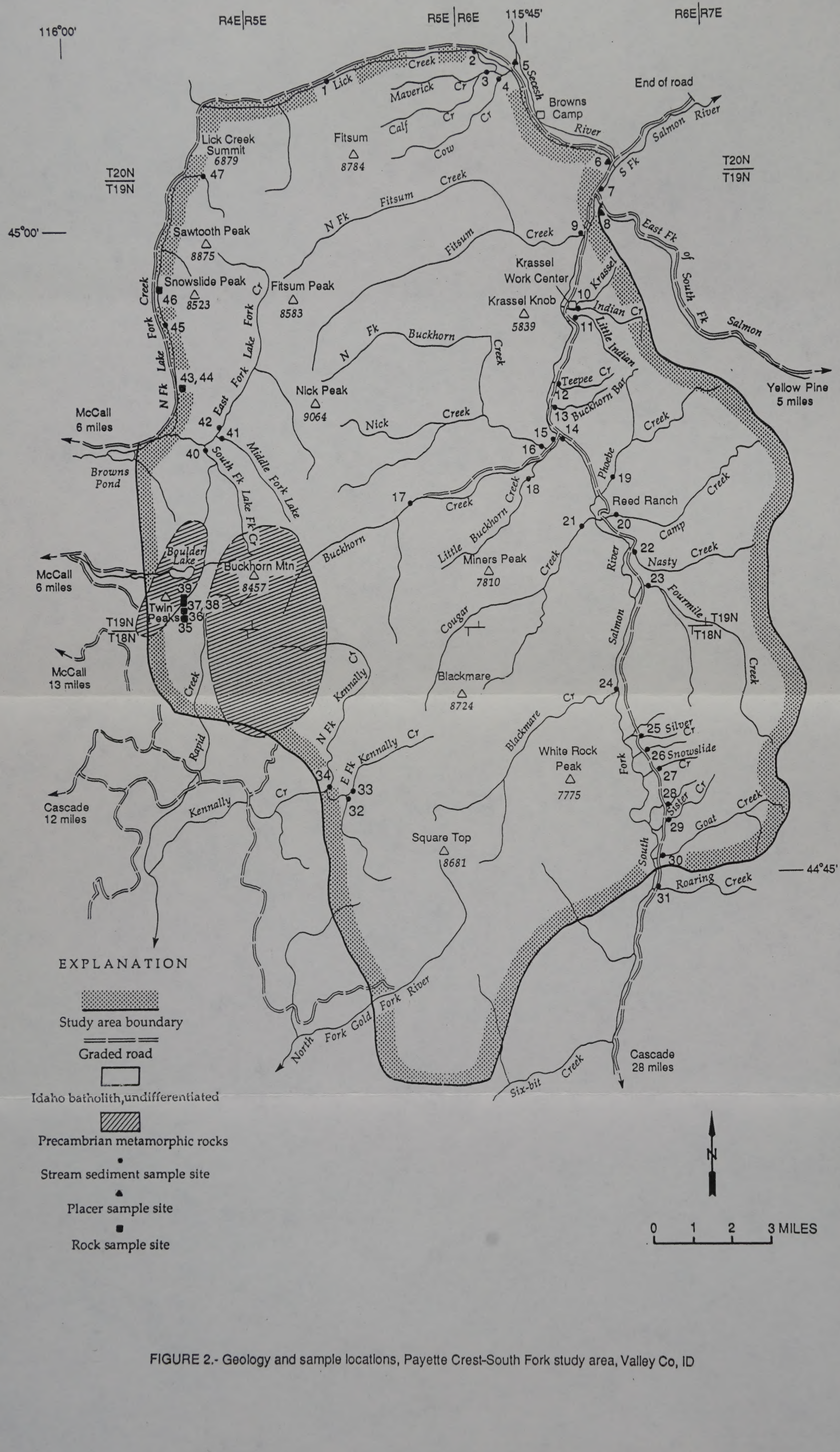

FIGURE 2.- Geology and sample locations, Payette Crest-South Fork study area, Valley Co, ID

excavation was used primarily as decorative stone for local construction.

Stream Sediment Samples

No identified mineral resources were indicated by stream sediment samples, but three anomalous areas were defined. Elemental contents of sediments from the three areas are similar to samples taken from mineralized areas elsewhere. However, anomalies and the relationship of anomalous samples to each other are weak: no sample contained anomalies in more than two elements in either of two groups of elements. One group is mobile and typically carried by hydrothermal mineralizing solutions and it includes gold, silver, copper, lead, zinc, arsenic, antimony, cobalt, mercury, molybdenum, and tungsten. The other group is less mobile and usually reflects host rock type; included in this group are titanium, lanthanum, and yttrium.

In the southeast part of the study area, stream sediments are weakly anomalous in gold, silver, copper, zinc, and mercury. The small amounts of these elements are not economically encouraging. Lanthanum, yttrium, and titanium concentrations suggest that granitic country rock, not hydrothermal mineralization, may be the source of the precious and base metal patterns. Roof pendants in the upper Buckhorn Creek area and near Boulder Lake are weakly mineralized and produce stream sediments anomalous in cobalt, copper, and titanium. The Thanksgiving prospect, in roof pendants near Boulder Lake, contains minor, non-economic gold. Minor antimony and arsenic occur in sediments east of Krassel Knob in the vicinity of old prospect pits; the small concentrations are not indicative of significant mineralization.

Placer Samples

Three placer samples (nos. 5, 6, and 8, fig. 2) were taken from bedrock along streams in the area. Each sample consisted of three 14-inch pansful of gravel from bedrock crevices. Two samples (nos. 6 and 8) contained significant, but less than economic, amounts of gold. Sample 6 contained $1.77 per cubic yard, and sample 8 contained $1.96 per cubic yard (gold price of $400 per troy ounce). Generally, a value of at least $4.00 per cubic yard is needed if sufficient amounts of gold-bearing gravels are present. There were a number of placer claims located over the years on the South Fork Salmon River above its junction with the East Fork. No prospect workings were seen on this part of the river except at Indian Creek near the Krassel Ranger Station. These workings had been examined in 1953, 1957, and 1961 as part of a patent application procedure. Twelve samples were taken during those examinations; none of the samples contained more than 2 cents per cubic yard (gold at $35 per troy ounce). The examiners recommended that the application be denied. Current placer interest centers on the area downstream from the junction of the South Fork Salmon River with the Secesh River. This is outside the boundary of the Payette Crest-South Fork study area.

CONCLUSIONS

The Payette Crest-South Fork study area does not contain any identified mineral resources. A sample from the Thanksgiving prospect contained an anomalous amount of gold, but the geologic structures are not large enough to warrant further exploration. Rock quarried from the Stevens mine appears to be a common variety of building stone, suitable for local construction purposes. Stone of similar quality is available elsewhere locally. Stream-sediment sampling did not indicate the existence of hidden or undiscovered mineral resources. Placer sampling revealed gravel with significant, but subeconomic gold content. None of the gravel deposits along the Secesh River or South Fork Salmon River above its junction with the Secesh River appear to contain enough gold-bearing gravel to support present commercial placer mining; recreational dredging, however, could be significant.

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APPENDIX

APPENDIX--Description and chemical analyses of rock, stream sediment, and placer concentrate samples from the Payette Crest-South Fork study area, Valley County, Idaho
(NA, not applicable; ppb, part per billion; ppm, part per million; %, percent; <, less than)
(Conversion of ppb:troy oz/t; 343 ppb:0.01 oz/t, 1,000 ppb:0.029 oz/t, 3,430 ppb:0.1 oz/t, 17,100 ppb:0.5 oz/t)

Map No.	Sample Type	Length (ft)	Description	Au (ppb)	Ag (ppm)	As (ppm)	Bi (ppm)	Co (ppm)	Cu (ppm)	Hg (ppb)	La (ppm)	Mo (ppm)	Pb (ppm)	Sb (ppm)	Ti (ppm)	W (ppm)	Y (ppm)	Zn (ppm)
1	Stream sed.	NA	NA	<5	.1	6	<1	4	5	<10	62	1	12	<1	1900	<10	13	70
2	Stream sed.	NA	NA	<5	<.1	5	<1	5	7	<10	67	1	11	<1	3125	<10	22	49
3	Stream sed.	NA	NA	<5	<.1	6	<1	2	3	<10	68	<1	11	<1	1525	<10	16	43
4	Stream sed.	NA	NA	<5	<0.1	5	<1	1	4	<10	103	<1	10	<1	1540	<10	65	41
5	Placer con.	NA	Sample from river bank contained 0.205 mg (milligram) of gold ($0.19/cu. yd.) recovered by amalgamation. Cinnabar noted in sample but additional mercury may have been introduced when amalgamating	10	<.1	6	<1	7	53	765	650	17	11	<1	4350	<10	375	19
6	Placer con.	NA	Sample from bedrock contained 1.872 mg of gold ($1.77/cu. yd.), recovered by amalgamation. Cinnabar noted in sample but additional mercury may have been introduced when amalgamating	5	<.1	5	<1	6	6	5560	2500	10	11	<1	1.2%	<10	1250	28
7	Stream sed.	NA	NA	<5	<.1	8	<1	2	5	<10	120	1	12	<1	2050	<10	23	60
8	Placer con.	NA	Sample from bedrock contained 2.087 mg of gold ($1.96/cu. yd.), recovered by amalgamation. Cinnabar noted in sample but additional mercury may have been introduced when amalgamating	25	<.1	25	<1	7	44	6480	285	12	19	7	6150	105	200	23
9	Stream sed.	NA	NA	<5	.1	10	<1	1	5	<10	75	<1	12	<1	1510	<10	25	37
10	Stream sed.	NA	NA	<5	<.1	12	<1	2	5	<10	102	<1	9	12	1920	<10	60	72
11	Stream sed.	NA	NA	<5	<.1	10	<1	3	3	<10	53	<1	10	3	1500	<10	72	44
12	Stream sed.	NA	NA	<5	<.1	12	<1	2	5	<10	60	<1	12	<1	1265	<10	36	37

APPENDIX--Description and chemical analyses of rock, stream sediment, and placer concentrate samples from the Payette Crest-South Fork study area, Valley County, Idaho
(NA, not applicable; ppb, part per billion; ppm, part per million; %, percent; <, less than)
(Conversion of ppb:troy oz/t; 343 ppb:0.01 oz/t, 1,000 ppb:0.029 oz/t, 3,430 ppb:0.1 oz/t, 17,100 ppb:0.5 oz/t)

Map No.	Sample type	Length (ft)		Description	Au (ppb)	Ag (ppm)	As (ppm)	Bi (ppm)	Co (ppm)	Cu (ppm)	Hg (ppb)	La (ppm)	Mo (ppm)	Pb (ppm)	Sb (ppm)	Ti (ppm)	W (ppm)	Y (ppm)	Zn (ppm)
13	Stream sed.	NA	NA		<5	<.1	10	<1	3	6	<10	52	1	10	<1	1540	<10	37	63
14	Stream sed.	NA	NA		<5	<.1	5	<1	3	6	15		5	15	<1	1700	<10	26	69
15	Stream sed.	NA	NA		5	.2	5	<1	4	11	<10	85	4	15	<1	2010	<10	14	86
16	Stream sed.	NA	NA		<5	.1	7	<1	2	6	20	480	4	14	<1	1520	<10	350	49
17	Stream sed.	NA	NA		<5	<.1	8	<1	3	8	20	74	7	14	<1	2750	<10	14	75
18	Stream sed.	NA	NA		5	.1	7	<1	2	5	<10	150	6	15	<1	1950	<10	13	73
19	Stream sed.	NA	NA		10	1.2	4	<1	3	5	<10	97	4	13	<1	1565	<10	34	53
20	Stream sed.	NA	NA		8	.1	3	<1	2	7	40	220	4	16	<1	1980	<10	25	67
21	Stream sed.	NA	NA		5	.1	2	<1	2	5	<10	340	5	17	<1	2380	<10	27	67
22	Stream sed.	NA	NA		<5	<0.1	4	<1	1	6	10	140	3	16	<1	1575	<10	21	74
23	Stream sed.	NA	NA		5	.8	5	<1	2	6	15	105	5	17	<1	2060	<10	22	71
24	Stream sed.	NA	NA		<5	.1	4	<1	2	5	<10	112	6	14	<1	2075	<10	14	84
25	Stream sed.	NA	NA		<5	.1	3	<1	2	6	<10	100	6	12	<1	2010	<10	27	85

APPENDIX--Description and chemical analyses of rock, stream sediment, and placer concentrate samples from the Payette Crest-South Fork study area, Valley County, Idaho
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Map No.	Sample Type	Length (ft)	Description	Au (ppb)	Ag (ppm)	As (ppm)	Bi (ppm)	Co (ppm)	Cu (ppm)	Hg (ppb)	La (ppm)	Mo (ppm)	Pb (ppm)	Sb (ppm)	Ti (ppm)	W (ppm)	Y (ppm)	Zn (ppm)
26	Stream sed.	NA	NA	5	.2	3	<1	3	6	<10	158	8	15	<1	1875	<10	32	86
27	Stream sed.	NA	NA	<5	.2	3	<1	2	4	<10	150	6	12	<1	2400	<10	13	83
28	Stream sed.	NA	NA	<5	.2	4	<1	2	5	<10	128	7	13	<1	2360	<10	22	82
29	Stream sed.	NA	NA	<5	.5	5	<1	4	9	<10	75	6	14	<1	3200	<10	16	110
30	Stream sed.	NA	NA	<5	.2	6	<1	1	5	<10	350	6	15	<1	2380	<10	42	74
31	Stream sed.	NA	NA	5	1.8	4	<1	3	6	40	125	7	14	<1	2560	<10	53	73
32	Stream sed.	NA	NA	<5	<.1	5	<1	4	6	10	80	1	13	<1	1760	<10	16	61
33	Stream sed.	NA	NA	<5	<.1	4	<1	2	4	<10	53	<1	6	<1	2790	<10	13	33
34	Stream sed.	NA	NA	<5	.1	3	<1	3	5	<10	68	1	13	<1	2160	<10	22	48
35	Random chip	NA	Metasediment roof pendant in granitic country rock	<5	.2	5	<1	7	38	10	40	12	6	<1	4600	<10	22	105
36	Chip	2	Graphite-bearing outcrop with 0.3 ft thick iron-oxide-stained gouge zone striking N. 10° E., dipping vertical	315	.8	98	<1	24	199	250	41	15	27	1	2205	10	41	648
37	Chip	3.7	Graphite-bearing zone striking N. 10° E., dipping 80° W.in metasediment block in granite country rock	<5	5.4	2025	<1	3	27	2140	28	42	175	135	1870	<10	21	38
38	Chip	3	Graphite-bearing zone at portal of adit	10	3.9	760	<1	2	16	3820	20	37	155	50	2000	<10	19	32
39	Random chip	NA	Roof pendant with graphite in shear zone striking N. 10° E., dipping 45°SW.	80	2.9	6850	3	3	38	1450	20	20	525	85	1790	<10	15	34
40	Stream sed.	NA	NA	<5	<.1	5	<1	10	8	<10	65	2	10	<1	4980	<10	27	85

APPENDIX--Description and chemical analyses of rock, stream sediment, and placer concentrate samples from the Payette Crest-South Fork study area, Valley County, Idaho
(NA, not applicable; ppb, part per billion; ppm, part per million; %, percent; <, less than)
(Conversion of ppb:troy oz/t; 343 ppb:0.01 oz/t, 1,000 ppb:0.029 oz/t, 3,430 ppb:0.1 oz/t, 17,100 ppb:0.5 oz/t)

Map No.	Sample Type	Length (ft)	Description	Au (ppb)	Ag (ppm)	As (ppm)	Bi (ppm)	Co (ppm)	Cu (ppm)	Hg (ppb)	La (ppm)	Mo (ppm)	Pb (ppm)	Sb (ppm)	Ti (ppm)	W (ppm)	Y (ppm)	Zn (ppm)
41	Stream sed.	NA	NA	<5	<.1	8	<1	10	12	<10	53	2	10	<1	3600	<10	22	74
42	Stream sed.	NA	NA	<5	<.1	4	<1	4	5	<10	135	1	11	<1	2750	<10	21	38
43	Random chip	NA	Quartzite roof pendant and quartz veins in granitic country rock, Stevens mine	<5	0.6	10	<1	9	32	15	18	5	6	<1	2720	<10	20	34
44	Random chip	NA	Quartzite pod with minor quartz and pegmatitic veins in granitic country rock, Stevens mine	<5	<.1	5	<1	3	4	10	13	17	8	<1	850	<10	9	28
45	Stream sed.	NA	NA	<5	<.1	5	<1	6	7	<10	46	1	10	<1	2650	<10	11	54
46	Select	NA	Iron oxide stained granitic rock with abundant pegmatitic material and quartz-filled fractures	<5	.3	6	<1	26	230	10	33	10	9	<1	1590	<10	14	48
47	Stream sed.	NA	NA	<5	<.1	4	<1	5	6	10	82	<1	122	<1	2175	<10	13	37

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